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Notes ID: 6D1AAF531B020317871A65586B80B835
From: Chris Hill <chris.hill@chk.com>
To: Robert Puls/ADA/USEPA/US@EPA
Copy To: John Satterfield <john.satterfield@chk.com>
Delivered Date: 10/28/2011 01:34 PM EDT
Subject: RE: incremental sampling

ATTACHMENT: Pages from TGM-10_final0206W.PDF
ATTACHMENT: rcra_gw.pdf
Bob,

CHK provided the following narrative for "incremental filling," based on CHK's and our contractor's environmental sampling experience, during prospective study discussions.

"Incremental filling allows for filling all samples bottles (bottle for all parties) so that the samples remain representative and consistent. This is accomplished by filling all of the samples bottle up to the one third mark; then filling all bottles up to the two-thirds capacity, and then filling to the top."

"Incremental sampling" is referenced in EPA documents, including the attached US EPA RCRA Ground-Water Monitoring document which states:

" Splitting samples is a common practice. Normally, aliquots from the sampling device should be alternately emptied into each container receiving a split until the containers are full."

In addition, states have adopted alternately filling techniques for split samples, as referenced in Ohio EPA's Division of Drinking and Ground Waters Technical Guidance Manual for Ground Water Investigations Chapter 10 (attached).

"Sample Splitting
Samples are often split into two separate portions and submitted to different laboratories to determine the accuracy of lab results. The proper procedure is to fill the two containers alternately until both are filled. However, if samples for VOC analysis are being collected, the first container should be completely filled, followed by filling of the split container."

As you advised below, I reviewed the USGS Field Sampling Manual, specifically section 4.3 Quality-Control Samples, 4.3.2.C Split Replicate Samples. According to this document there are two options for split replicate sampling, both of which have the same intent as the proposed incremental filling technique:

1. Separating a sample into two subsamples after the original has been processed and preserved.
- Start with a full sample bottle of processed (whole-water or filtered) sample.
- Transfer entire contents of first bottle to second bottle, cap second bottle, and thoroughly shake bottle to mix.
- Pour entire contents of second bottle back into first bottle.
- Pour one-half of sample from first bottle back into second bottle, then cap both bottles.

2. Processing the samples through a compositing device (such as a churn

splitter).

What is your preferred method for taking split samples?

Have a good weekend.

Thanks,
Chris

-----Original Message-----
From: Puls.Robert@epamail.epa.gov [mailto:Puls.Robert@epamail.epa.gov]
Sent: Thursday, October 27, 2011 10:31 AM
To: Chris Hill
Cc: John Satterfield
Subject: incremental sampling

Our GW sampling methods are well established (see USGS Field Sampling Manual) but nowhere do I find one for 'incremental' sampling. Please forward.

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- Pages from TGM-10_final0206W.PDF - rcra_gw.pdf